

Virginia Regulatory Town Hall

Proposed Regulation Agency Background Document

Agency Name:	State Air Pollution Control Board
Regulation Title:	Regulations for the Control and Abatement of Air Pollution
Primary Action:	9 VAC 5 Chapter 40, Article 4 (Rule 4-4)
Secondary Action(s):	9 VAC 5 Chapter 40, Article 8 (Rule 4-8)
Action Title:	Control of Nitrogen Oxides from Stationary Sources (Rev.A99)
Date:	September 11, 2000

This information is required pursuant to the Administrative Process Act (§ 9-6.14:9.1 *et seq.* of the *Code of Virginia*), Executive Order Twenty-Five (98), and the *Virginia Register Form, Style and Procedure Manual*. Please refer to these sources for more information and other materials required to be submitted in the regulatory review package.

Summary *

Please provide a brief summary of the proposed new regulation, amendments to an existing regulation, or the regulation being repealed. There is no need to state each provision or amendment or restate the purpose and intent of the regulation.

Rule 4-4 provides a legal mechanism whereby the Board is required to make source specific Reasonable Available Control Technology (RACT) determinations for all currently known major sources subject to source specific NO_x RACT requirements under the federal Clean Air Act. Amendments are being proposed to delete the provisions that address seasonal applicability, certain exemptions and the emission allocation system.

Rule 4-8 establishes emission limits along with compliance testing, monitoring, recordkeeping and reporting requirements for fuel burning equipment. Amendments are being proposed to establish an emissions rate limit for nitrogen oxides for electric generating units and non-electric generating units and create a compliance averaging plan to provide flexibility for the sources subject to the regulation.

Basis *

Please identify the section number and provide a brief statement relating the content of the statutory authority to the specific regulation proposed. Please state that the Office of the Attorney General has certified that the agency has the statutory authority to promulgate the proposed regulation and that it comports with applicable state and/or federal law.

Section 10.1-1308 of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare. Written assurance from the Office of the Attorney General that (i) the State Air Pollution Control Board possesses the statutory authority to promulgate the proposed regulation amendments and that (ii) the proposed regulation amendments comport with the applicable state and/or federal law is available upon request.

Purpose *

Please provide a statement explaining the rationale or justification of the proposed regulation as it relates to the health, safety or welfare of citizens.

The purpose of the regulation is to require the owners of large stationary NO_x sources to limit air emissions to a specified level necessary to protect public health and welfare. The regulation amendments are being proposed to make the state version of the non-CTG NO_x RACT rule consistent with the federally approved version and to adopt NO_x controls as may be necessary to address air quality violations.

Substance *

Please identify and explain the new substantive provisions, the substantive changes to existing sections, or both where appropriate. Please note that a more detailed discussion is required under the statement providing detail of the regulatory action's changes.

1. Delete the provision that pertains to the seasonal applicability for the NO_x RACT requirements.
2. Delete the provisions that provide an exemption from the RACT requirement for any steam generating unit, process heater or gas turbine with a rated capacity of less than 100,000,000 Btu per hour and any combustion unit with a rated capacity of less than 50,000,000 Btu per hour.
3. Delete the provisions that provide for an emission allocation system to meet the RACT requirement.
4. Add definitions for "Btu", "Combined cycle system", "Combustion turbine", "Continuous emission monitoring system" or "CEMS", "Electric generating unit",

"Generator", "Fossil-fuel fired", "MWe", "mmBtu", "Nameplate capacity", "Non-electric generating unit", "Opt-in unit", "Ozone season", "Ozone season heat input", and "Ton".

5. Add provisions which establish emission standards for nitrogen oxides from electric generating units and non-electric generating units.
6. Add provisions for a NOx emissions compliance demonstration that allows emissions rate averaging.
7. Add provisions for a plan, approved by the Board, that would allow the use of banked emissions credits in the NOx emissions compliance demonstration.
8. Add provisions for early reduction credits to be used in the NOx emissions compliance plan.

Issues *

Please provide a statement identifying the issues associated with the proposed regulatory action. The term "issues" means: 1) the primary advantages and disadvantages to the public of implementing the new or amended provisions; and 2) the primary advantages and disadvantages to the agency or the Commonwealth. If there are no disadvantages to the public or the Commonwealth, please include a sentence to that effect.

1. Public: The primary advantage to the general public is that air quality will improve with less cost and intrusiveness to the citizens and businesses of the Commonwealth when compared to the NOx SIP Call. The cost of compliance is a key issue for the citizens of the Commonwealth since the utility industry is affected by this regulation. If the cost of control is excessive, the additional costs may be passed on to the consumer in the form of rate hikes.

This regulation is not a cap and trade rule; instead it utilizes emission rate averaging. This approach provides more flexibility for compliance options for the sources affected while still protecting air quality. A compliance demonstration is required at the end of the ozone season. Sources must demonstrate that they have operated equipment such that the NOx emissions are either equal to or below the specified limit. Tons of NOx may be purchased or sold according to the need of the source owner; NOx credits can also be generated as early reduction credits or the source may choose to bank credits via a plan approved in advance by the Board. NOx credits from sources located outside the Commonwealth may be used provided specific requirements are met and, if necessary, an air quality analysis is conducted. Sources not subject to the regulation may participate in the program as opt-in sources provided specific conditions are met.

Disadvantages to the regulated sources are in the areas of costs for control and monitoring. Sources will need to monitor emissions with continuous emission monitors (CEMs). If sources do not currently have CEMs they will need to install the monitoring equipment to participate in the program. Emissions averaging may not be sufficient to

meet the requirements of the regulation and some sources may need to install control equipment.

2. Department: The advantages for the Department are in the area of effective compliance and reduced inspections. The regulation provides procedures for continuous or process parameter monitoring of emissions for determining compliance with the NOx emissions standard. This will result in very accurate data to be used for compliance demonstrations or enforcement actions when necessary.

Disadvantages include the need for Department to review the compliance demonstrations. More time may be involved if a source chooses to utilize averaging, early reduction credits (ERCS), credits from other states or banked credits. In addition, if a source chooses to purchase NOx credits facilities located out of state to meet the requirements of the compliance demonstration, the Department may need to review both an air quality analysis plus the documentation for the NOx credits.

Localities Particularly Affected *

Please provide the identity of any localities particularly affected by the proposed regulation.

Regarding Rule 4-4, the geographic coverage consists of the following localities in the Northern Virginia Ozone Nonattainment Area: Arlington County, Fairfax County, Fauquier County, Loudoun County, Prince William County, Stafford County, the City of Alexandria, the City of Fairfax, the City of Falls Church, the City of Manassas, and the City of Manassas Park.

Regarding Rule 4-8, there is no locality which will bear any identified disproportionate material air quality impact due to the proposed regulation which would not be experienced by other localities.

Public Participation *

Please indicate the nature of the comments the Department is soliciting pursuant to this notice.

The Department is seeking comment on the proposed regulation and the costs and benefits of the proposal.

Impact

Please identify the anticipated fiscal impacts and at a minimum include: (a) the projected cost to the state to implement and enforce the proposed regulation, including (i) fund source / fund detail, (ii) budget activity with a cross-reference to program and subprogram, and (iii) a delineation of one-time versus on-going expenditures; (b) the projected cost of the regulation on localities; (c) a description of the individuals, businesses or other entities that are likely to be affected by the regulation; (d) the agency's best estimate of the number of such entities that will be affected; and (e) the projected cost of the regulation for affected individuals, businesses, or other entities. Include a description of the beneficial impact the regulation is designed to produce.

1. Entities Affected

Approximately 80 large NOx emissions units, both electric generating units and non-electric generating units, will be affected by the proposal. In addition, one owner may control several NOx emissions units; therefore, even though approximately 80 units are affected, the number of affected sources (owners) is significantly less.

2. Fiscal Impact

a. Costs to Affected Entities

Most of the sources affected by this regulation are also covered by the Environmental Protection Agency (EPA) NOx SIP Call rule. The EPA has estimated that the total cost for reductions to achieve the NOx SIP Call (which includes the 22 state region east of the Mississippi) to be approximately 1.7 billion dollars per year. EPA has also estimated the total tons of NOx reductions for that geographic area to be approximately 1.2 million tons. This results in a cost per ton of NOx reduced of approximately \$1,500. EPA has stated that NOx emission reductions costing as much as \$2000 per ton are considered a cost-effective.

Under the NOx SIP Call, the total NOx reductions from both electric generating (EGU) and non-electric generating (non-EGU) units for Virginia is projected by EPA to be approximately 45,000 tons. Based on a cost effectiveness of \$1,500 per ton, the cost to Virginia sources to meet the NOx SIP Call will be approximately \$67 million per year.

The NOx emissions rate for EGUs under the SIP Call is 0.15 lbs/mmBtu. Under this proposal the NOx emissions limit is 0.25 lbs/mmBtu. One could speculate that the cost to meet a less stringent limit would be less; however, source specific situations, i.e. age of equipment, type of control equipment, available space to install equipment, etc. will vary from source to source. Therefore, the estimate of cost per ton may vary widely from source to source.

b. Costs to Localities

The projected cost of the regulation on localities is not expected to be beyond that of other affected entities and are addressed in paragraph 2a above.

c. Costs to Agency

The Department will be involved in conducting inspections of the sources affected by the regulation and incorporating this information into Title V permits. This is an ongoing activity; however, more specific and accurate information will be obtained during the inspections due to the fact that the equipment will be outfitted with CEMs. The Department will need to review compliance demonstrations from affected sources and "opt-ins" if appropriate, the documentation for the purchase of credits from other sources

located outside the state and any other matters needing pre-approval by the Board including ERCs, and banking plans. At this time, it is not know how many sources will utilize the provisions of the regulation that permit this added flexibility, therefore, any additional estimated costs to the Department would be arbitrary.

It is not expected that the regulation will result in any cost to the Department beyond that currently in the budget. The sources of Department funds to carry out this regulation are the general fund and the federal trust (grant money provided by the U.S. Environmental Protection Agency under Section 105 of the federal Clean Air Act or permit fees charged to affected entities under the permit program). The activities are budgeted under the following program (code)/subprogram (code): (i) Environmental and Resource Management (5120000)/Air Quality Stationary Source Permitting (5122000) and Air Quality Stationary Source Compliance Inspection (5122100) and (ii) Environmental Research and Planning (5130000)/Air Quality Research and Planning (5130700). The costs are expected to be ongoing.

d. Benefits

By achieving the projected NO_x reductions, the Commonwealth will meet its requirements under the contingency measures of the Maintenance Plan for the Richmond area, thus ensuring the maintenance of air quality in Central Virginia. In addition, the NO_x reductions will reduce the impact of ozone formation in Virginia and upwind states, thus meeting the goals of the federal NO_x SIP Call regulation.

e. Small Business Impact

The impact upon facilities that meet the definition of small business provided in § 9-199 of the Code of Virginia is addressed in paragraph 2a above.

Legal Requirements

Please identify the state and/or federal source of the legal requirements that necessitate promulgation of the contemplated regulation. The discussion of these requirements should include a description of their scope and the extent to which the requirements are mandatory or discretionary. Full citations for the legal requirements and web site addresses, if available, for locating the text of the cited legal provisions should be provided.

Federal Requirements

Federal Clean Air Act (CAA):

<http://www.epa.gov/ttn/oarpg/gener.html>

Code of Federal Regulations (CFR):

<http://www.access.gpo.gov/nara/cfr/cfr-retrieve.html>

Federal Register (FR):

http://www.gpo.gov/su_docs/aces/aces140.html

Section 110(a) of the Clean Air Act (CAA) mandates that each state adopt and submit to EPA a plan which provides for the implementation, maintenance, and enforcement of each primary and secondary air quality standard within each air quality control region in the state. The state implementation plan shall be adopted only after reasonable public notice is given and public hearings are held. The plan shall include provisions to accomplish, among other tasks, the following:

- (1) establish enforceable emission limitations and other control measures as necessary to comply with the provisions of the CAA, including economic incentives such as fees, marketable permits, and auctions of emissions rights;
- (2) establish schedules for compliance;
- (3) prohibit emissions which would contribute to nonattainment of the standards or interference with maintenance of the standards by any state; and
- (4) require sources of air pollution to install, maintain, and replace monitoring equipment as necessary and to report periodically on emissions-related data.

40 CFR Part 51 sets out requirements for the preparation, adoption, and submittal of state implementation plans. These requirements mandate that any such plan shall include several provisions, including those summarized below.

Subpart G (Control Strategy) specifies the description of control measures and schedules for implementation, the description of emissions reductions estimates sufficient to attain and maintain the standards, time periods for demonstrations of the control strategy's adequacy, an emissions inventory, an air quality data summary, data availability, special requirements for lead emissions, stack height provisions, and intermittent control systems.

Subpart K (Source Surveillance) specifies procedures for emissions reports and record-keeping, procedures for testing, inspection, enforcement, and complaints, transportation control measures, and procedures for continuous emissions monitoring.

Subpart L (Legal Authority) specifies the requirements for legal authority to implement plans.

Section 51.230 under Subpart L specifies that each state implementation plan must show that the state has the legal authority to carry out the plan, including the authority to perform the following actions:

- (1) adopt emission standards and limitations and any other measures necessary for the attainment and maintenance of the national ambient air quality standards;
- (2) enforce applicable laws, regulations, and standards, and seek injunctive relief;

- (3) abate pollutant emissions on an emergency basis to prevent substantial endangerment to the health of persons;
- (4) prevent construction, modification, or operation of a facility, building, structure, or installation, or combination thereof, which directly or indirectly results or may result in emissions of any air pollutant at any location which will prevent the attainment or maintenance of a national standard;
- (5) obtain information necessary to determine whether air pollution sources are in compliance with applicable laws, regulations, and standards, including authority to require record-keeping and to make inspections and conduct tests of air pollution sources;
- (6) require owners or operators of stationary sources to install, maintain, and use emission monitoring devices and to make periodic reports to the state on the nature and amounts of emissions from such stationary sources; and
- (7) make emissions data available to the public as reported and as correlated with any applicable emission standards or limitations.

Section 51.231 under Subpart L requires the identification of legal authority as follows:

- (1) the provisions of law or regulation which the state determines provide the authorities required under this section must be specifically identified, and copies of such laws or regulations must be submitted with the plan; and
- (2) the plan must show that the legal authorities specified in this subpart are available to the state at the time of submission of the plan.

Subpart N (Compliance Schedules) specifies legally enforceable compliance schedules, final compliance schedule dates, and conditions for extensions beyond one year.

Part D of the Clean Air Act specifies state implementation plan requirements for nonattainment areas, with Subpart 1 covering nonattainment areas in general and Subpart 2 covering additional provisions for ozone nonattainment areas.

Section 171 defines "reasonable further progress," "nonattainment area," "lowest achievable emission rate," and "modification."

Section 172(a) authorizes EPA to classify nonattainment areas for the purpose of assigning attainment dates. Section 172(b) authorizes EPA to establish schedules for the submission of plans designed to achieve attainment by the specified dates. Section 172(c) specifies the provisions to be included in each attainment plan, as follows:

- (1) the implementation of all reasonably available control measures as expeditiously as practicable and shall provide for the attainment of the national ambient air quality standards;
- (2) the requirement of reasonable further progress;
- (3) a comprehensive, accurate, current inventory of actual emissions from all sources of the relevant pollutants in the nonattainment area;
- (4) an identification and quantification of allowable emissions from the construction and modification of new and modified major stationary sources in the nonattainment area;
- (5) the requirement for permits for the construction and operations of new and modified major stationary sources in the nonattainment area;
- (6) the inclusion of enforceable emission limitations and such other control measures (including economic incentives such as fees, marketable permits, and auctions of emission rights) as well as schedules for compliance;
- (7) if applicable, the proposal of equivalent modeling, emission inventory, or planning procedures; and
- (8) the inclusion of specific contingency measures to be undertaken if the nonattainment area fails to make reasonable further progress or to attain the national ambient air quality standards by the attainment date.

Section 172(d) requires that attainment plans be revised if EPA finds inadequacies. Section 172(e) authorizes the issuance of requirements for nonattainment areas in the event of a relaxation of any national ambient air quality standard. Such requirements shall provide for controls which are not less stringent than the controls applicable to these same areas before such relaxation.

Under Part D, Subpart 2, Section 182(a)(2)(A) requires that the existing regulatory program requiring reasonably available control technology (RACT) for stationary sources of volatile organic compounds (VOCs) in marginal nonattainment areas be corrected by May 15, 1991, to meet the minimum requirements in existence prior to the enactment of the 1990 amendments. RACT is the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. EPA has published control technology guidelines (CTGs) for various types of sources, thereby defining the minimum acceptable control measure or RACT for a particular source type.

Section 182(b) requires stationary sources in moderate nonattainment areas to comply with the requirements for sources in marginal nonattainment areas. The additional, more comprehensive control measures in Section 182(b)(2)(A) require that each category of

VOC sources employ RACT if the source is covered by a CTG document issued between enactment of the 1990 Amendments and the attainment date for the nonattainment area. Section 182(b)(2)(B) requires that existing stationary sources emitting VOCs for which a CTG existed prior to adoption of the 1990 Amendments also employ RACT. Section 182(b)(2)(C) requires RACT controls on major VOC stationary sources not covered by an existing CTG (non-CTG sources). Section 182(f) requires that control measures required for major stationary sources of VOCs shall also be required of major stationary sources of nitrogen oxides. A major source in a moderate nonattainment area is defined in Section 302(j) to be a stationary source emitting or having the potential to emit 100 TPY or more of a pollutant.

Section 182(c) requires stationary sources in serious nonattainment areas to comply with the requirements for sources in both marginal and moderate nonattainment areas, and defines a major source as one emitting or having the potential to emit 50 TPY or greater of VOC or NO_x. Consequently, RACT is required on major non-CTG stationary sources emitting 50 TPY or greater of VOCs and NO_x.

State Requirements

Code of Virginia:

<http://leg1.state.va.us/000/cod/codec.htm>

Virginia Administrative Code (VAC):

<http://leg1.state.va.us/000/reg/toc.htm>

Section 10.1-1308 of the Virginia Air Pollution Control Law (Title 10.1, Chapter 13 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations abating, controlling and prohibiting air pollution in order to protect public health and welfare.

Comparison with Federal Requirements

Please describe the provisions of the proposed regulation which are more restrictive than applicable federal requirements together with the reason why the more restrictive provisions are needed.

The proposed regulation amendments are not more restrictive than the applicable legal requirements.

Need

Please provide an explanation of the need for the proposed regulation and potential consequences that may result in the absence of the regulation. Also set forth the specific reasons the agency has determined that the proposed regulatory action would be essential to protect the health, safety or welfare of citizens or would be essential for the efficient and economical performance of an important governmental function. Include a discussion of the problems the regulation's provisions are intended to solve.

One of the primary goals of the federal Clean Air Act (Act) is the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). These standards, designed to protect public health and welfare, apply to six pollutants, of which ozone is the primary focus of this proposed action. Ozone is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_x) in the air react together in the presence of sunlight. VOCs are chemicals contained in gasoline, polishes, paints, varnishes, cleaning fluids, inks, and other household and industrial products. NO_x emissions are a by-product from the combustion of fuels and industrial processes.

To reduce ozone concentrations in the ambient air, the emissions of NO_x and VOCs (ozone precursors) from both mobile and stationary sources must be reduced. VOC and NO_x emissions from stationary sources can be reduced by employing stationary source controls. Reduction of ozone precursors from stationary sources via stationary source controls can substantially reduce ozone concentrations, and in conjunction with reductions achieved from control measures on other source types, can reduce ozone concentrations to levels at or below the current health standard for ozone.

The National Ambient Air Quality Standard for ozone was established by the U.S. Environmental Protection Agency (EPA) to protect the health of the general public with an adequate margin of safety. When concentrations of ozone in the ambient air exceed the federal standard the area is considered to be out of compliance and is classified as "nonattainment." Failure to develop adequate programs to meet the ozone air quality standard: (i) will result in continued violations of the standard to the detriment of public health and welfare, (ii) may result in assumption of the program by EPA at which time the Commonwealth would lose authority over matters affecting its citizens, and (iii) may result in the implementation of sanctions by EPA, such as prohibition of new major industrial facilities and loss of federal funds for sewage treatment plant development and highway construction. Furthermore, if a particular area fails to attain the federal standard by the legislatively mandated attainment date, EPA is required to reassign it to the next higher classification level (denoting a worse air quality problem), thus subjecting the area to more stringent air pollution control requirements. The Clean Air Act includes specific provisions requiring these sanctions to be issued by EPA if so warranted.

The 1990 Amendments to the Clean Air Act (new Act) represent the most comprehensive piece of clean air legislation ever enacted to address air quality planning requirements for areas that had not attained the federal air quality standard for ozone (that is, nonattainment areas). The new Act established a process for evaluating the air quality in each region and identifying and classifying each nonattainment area according to the severity of its air pollution problem. Nonattainment areas are classified as marginal, moderate, serious, severe and extreme. Marginal areas are subject to the least stringent requirements and each subsequent classification (or class) is subject to successively more stringent control measures. Areas in a higher classification of nonattainment must meet the mandates of the lower classifications plus the more stringent requirements of its own class.

In 1990, the classifications for Virginia's nonattainment areas were marginal for the Hampton Roads Nonattainment Area, moderate for the Richmond Nonattainment Area, and serious for the Northern Virginia Nonattainment Area. Since that time, air quality has improved. Although Northern Virginia remains as a nonattainment area, Richmond and Hampton Roads have achieved the one-hour ozone standard and are now considered maintenance areas; that is specific strategies that were implemented must continue, however, no additional new requirements are necessary provided the areas do not measure ozone concentrations in levels high enough to reclassify them into nonattainment.

Once the nonattainment areas were defined, each state was then obligated to submit a plan demonstrating how it will attain the air quality standard in each nonattainment area. The Act mandates that all such plans require the implementation of all reasonably available control measures (RACM). For the Northern Virginia Nonattainment Area situation, the Act has defined several RACMs. One of the RACMs is to require emission controls for the precursors of ozone (VOCs and NO_x) on presently uncontrolled major stationary sources. Thus, in order to have a fully approvable plan, control methods for this category of sources must be analyzed and, if found to be reasonable, implemented.

In order to implement the mandate of the Act, the State Air Pollution Control Board adopted a regulation (Rule 4-4) which provides that the Department must, on case-by-case basis, determine whether there is reasonably available control technology (RACT) to reduce VOC emissions and NO_x emissions from major sources [>50 tons per year (TPY) potential] located in the Northern Virginia Nonattainment Area for which EPA has not issued control techniques guideline (CTG). CTGs are documents issued to define RACT for a particular source category. EPA has defined RACT as the lowest emission limit that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

This regulation is a process-oriented, generic regulation which does not include specific and ascertainable emission limits for all major sources and does not provide standards for EPA to approve or disapprove to satisfy the definition of RACT. Therefore, RACT requirements are only satisfied after the specific limits for a specific source have been submitted to EPA as a SIP revision. RACT may be a technology that has been applied to similar, but not necessarily identical, source categories. It is not intended that extensive research and development be conducted before given control technology can be applied to the source. This does not, however, preclude a short term evaluation program to permit the application of a given technology to a particular source. The latter effort is an appropriate technology forcing aspect of RACT. If RACT exists, then a legally enforceable means must be adopted to require the necessary emission reductions.

As previously stated, the Clean Air Act requires states to submit rules to implement RACT on major sources of NO_x in ozone nonattainment areas designated as moderate or above and throughout the Ozone Transport Region. This includes Northern Virginia which is part of the Metropolitan Washington D.C. serious ozone nonattainment area. Virginia made two submittals with regard to this issue, one on November 9, 1992 and another on April

22, 1996. The November 9, 1992, SIP revision consisted of adopted regulations to impose NO_x RACT on major sources in the nonattainment area (Rule 4-4 and Appendix T). The November 1992 submittal was supplemented with the submittal of April 22, 1996. EPA notified Virginia via letter dated March 17, 1998, that portions of the 1992 submittal and all of the April 1996 submittal were unacceptable to EPA and should be withdrawn, i.e. removed from the regulation that would be federally approved and included in the SIP. On April 11, 1998, Virginia withdrew, by letter, the following provisions of those submittals as they relate to the control of nitrogen oxides:

1. All of the provisions of the April 22, 1996 submittal.
2. Certain provisions of the November 9, 1992 submittal in regulatory Appendix T relating to exemptions in Sections III C 1 and C 3 and the emission allocation system in Section IV.

The April 11, 1998 letter also included a revised version of Appendix T to correct a technical error which had appeared during publication in the Virginia Register. In addition to the typographical correction, Appendix T was recodified and renumbered as 9 VAC 5-40-311.

As mentioned above, the Richmond area has been redesignated attainment. As part of the request to redesignate the area attainment, the Commonwealth included a maintenance plan designed to ensure that compliance with the air quality standards is maintained. The maintenance plan includes contingency measures, as necessary, to promptly correct any air quality violation that occurs after redesignation of the area. These include, among others, implementation of control requirements on sources of NO_x. Recent air quality data for the Richmond area, however, suggest that the levels of ozone have been high enough to be considered in violation of the ozone air quality standard. Therefore, the Commonwealth is obligated to take corrective action to eliminate the violations. Air quality analyses performed by the U.S. Environmental Protection Agency and the Department of Environmental Quality indicate that NO_x controls are necessary to address this issue. In addition, the attainment plans for the Northern Virginia area include an obligation to implement NO_x controls.

Detail of Changes

Please detail any changes, other than strictly editorial changes, that are being proposed. Please detail new substantive provisions, all substantive changes to existing sections, or both where appropriate. This statement should provide a section-by-section description of changes implemented by the proposed regulatory action. Where applicable, include cross-referenced citations when the proposed regulation is intended to replace an existing regulation.

1. Deleted the requirement that the control of nitrogen oxides under section 9 VAC 5-40-310 shall apply only from May 1 through September 30. [9 VAC 5-40-310 G]
2. Deleted the definitions for "Combustion unit", Fuel burning equipment installation" and "Total capacity". [9 VAC 5-40-311 B 3]

3. Deleted the provisions that exempted from the RACT determination any steam generating unit, process heater or gas turbine with a rated capacity of less than 100,000,000 Btu per hour and any combustion unit with a rated capacity of less than 50,000,000 Btu per hour. [9 VAC 5-40-311 C 3 a, c]
4. Deleted the section that provided for an emissions allocation system. [9 VAC 5-40-311 D]
5. Added definitions for "Btu", "Combined cycle system", "Combustion turbine", "Continuous emission monitoring system" or "CEMS", "Electric generating unit", "Generator", "Fossil-fuel fired", "MWe", "mmBtu", "Nameplate capacity", "Non-electric generating unit", "Opt-in unit", "Ozone season", "Ozone season heat input", and "Ton". [9 VAC 5-40-890 C]
6. Added provisions that established a NO_x emission standard for electric generating units and non-electric generating units which applies to existing, new or modified sources. This standard will not override any existing permit or other regulatory requirements. [9 VAC 5-40-925 A]
7. Added provisions to establish the NO_x emissions rate limit for electrical generating units as 0.25 lb/mmBtu of heat input or 65 percent reduction from 1990 emission rates (lb/mmBtu), whichever is less stringent. [9 VAC 5-40-925 B]
8. Added provisions to establish the NO_x emissions rate limit for non-electrical generating units as the levels specified in Table 4-4C of 9 VAC 5-40-311 or 46 percent reduction from 1990 (or another year more representative of normal operating conditions) emission rates (lb/mmBtu), whichever is less stringent. [9 VAC 5-40-925 C]
9. Added provisions to establish that the new NO_x emissions standard for electrical and non-electrical units only applies during the ozone season. [9 VAC 5-40-925 D]
10. Added provisions that establish a violation if an owner does not demonstrate compliance by November 1 of each year. [9 VAC 5-40-925 E]
11. Added provisions that allow for emissions averaging during the ozone season through a NO_x emissions compliance demonstration. [9 VAC 5-40-926 A]
12. Added provisions that establish which units may be included in the compliance demonstration and require a baseline NO_x emission rate to be established for all units included in the compliance demonstration. [9 VAC 5-40-926 B]
13. Added provisions that describe the formula to be used to average NO_x emissions for the compliance demonstration. [9 VAC 5-40-926 C]

14. Added provisions to allow the owners of sources not subject to the regulation to “opt-in” to the program provided they meet the monitoring and compliance demonstration sections of the regulation. Tons sold by the “opt-in” sources could be purchased and used by an owner of a source subject to the regulation, if necessary, in the compliance demonstration. [9 VAC 5-40-926 D]
15. Added provisions to require submittal of the compliance demonstration by November 1 of each year. [9 VAC 5-40-926 E]
16. Added provisions to identify specific documents be included in the compliance demonstration. [9 VAC 5-40-926 F]
17. Added provisions to allow the use of NOx credits from sources outside the Commonwealth provided specific conditions are met. [9 VAC 5-40-926 G]
18. Added provisions to allow the use of early reduction credits (ERCs) in the compliance demonstration provided they meet the requirements of 9 VAC 5-40-928. [9 VAC 5-40-926 H]
19. Added provisions to allow the use of banked of NOx emissions credits in the compliance demonstration provided the banking plan has been approved by and is in a format acceptable to the Board. [9 VAC 5-40-927]
20. Added provisions to allow the generation of ERCs provided specific requirements are met. [9 VAC 5-40-928]
21. Established a date for sources subject to the regulation to submit a control program which provides for compliance by May 1, 2004. [9 VAC 5-40-980 B]
22. Require that all sources subject to 9 VAC 5-40-925 shall install, calibrate, maintain and operate systems for continuously monitoring and recording specified emissions in accordance with 40 CFR Part 75, subpart H. Sources which opt-in to the program must also meet the monitoring requirements. [9 VAC 5-40-1000 E]

Alternatives

Please describe the process by which the agency has considered less burdensome and less intrusive alternatives for achieving the need. Also describe, to the extent known, the specific alternatives to the proposal that have been considered to meet the need, and the reasoning by which the agency has rejected any of the alternatives considered.

As provided in the public participation procedures of the State Air Pollution Control Board, the Department included, in the Notice of Intended Regulatory Action, a description of the Department's alternatives and a request for comments on other alternatives and the costs and benefits of the Department's alternatives or any other alternatives that the commenters provided.

Following the above, alternatives to the proposed regulation amendments were considered by the Department. The Department determined that the first alternative is appropriate, as it is the least burdensome and least intrusive alternative that fully meets the purpose of the regulation. The alternatives considered by the Department, along with the reasoning by which the Department has rejected any of the alternatives being considered, are discussed below.

1. Amend the regulations to satisfy the provisions of the law and associated regulations and policies. This option was chosen because it meets the stated purpose of the regulation: to make the state version of the regulation consistent with the federally approved version and to adopt NO_x controls as may be necessary to address air quality violations.
2. Make alternative regulatory changes to those required by the provisions of the law and associated regulations and policies. This option was not chosen because it would result in a state regulation that was not consistent with the federally approved version. This would lead to confusion for the general public and the regulated community.
3. Take no action to amend the regulations and continue to implement a regulation that is not consistent with the federally approved SIP version. This option is not being selected due to the same reasons cited in number two above.

Public Comment

Please summarize all public comment received during the NOIRA comment period and provide the agency response. If no public comment was received, please include a statement indicating that fact.

1. **SUBJECT:** NO_x control from stationary sources

COMMENTER: August Wallmeyer, Virginia independent Power Producers

TEXT: It is recommended that reductions should be obtained from mobile sources as well as from stationary sources. It is noted that NO_x emissions without appropriate additional VOC emissions may actually increase ambient levels of ozone. If reductions are targeted it is requested that new limits retain the current performance based standard and not be based on a pound per year or per ozone season basis. Any cap, if one is to be imposed, should not be based on historical emissions.

RESPONSE: Vehicles are manufactured with emissions control equipment installed. The Board has regulations that address emissions from mobile sources and ensure that the equipment is in proper working condition. The Board also has regulations that address the emissions as a result of refueling vehicles. In addition, the General Assembly has passed legislation to require the NLEV program in serious nonattainment areas.

No caps have been established and the NOx limit is based on an emissions rate.

2. **SUBJECT**: NOx control from electric generating units

COMMENTER: William Poleway, UAE Mecklenburg Cogeneration LP

TEXT: It is mentioned that cogeneration facilities produce electricity for a “host” facility which eliminates the emissions associated form the “host”. In addition, cogeneration facilities are more efficient and cleaner than the “host” facility, therefore, the cogeneration facility already contributes to a cleaner environment. To place additional controls on cogeneration facilities in effect penalizes these relatively clean facilities. If a system of NOx allocations is to come into effect, it should not be based upon historical actual emissions and a system of emission trading should be established.

RESPONSE: As mentioned above, the NOx standard is based upon the least restrictive of a specific emissions rate or a percentage of the reduction from 1990 (or another year more representative of normal operating conditions) emission rates. This approach levels the playing field and provides compensation for some sources which burn fuel more efficiently than others.

Clarity of the Regulation

Please provide a statement indicating that the agency, through examination of the regulation and relevant public comments, has determined that the regulation is clearly written and easily understandable by the individuals and entities affected.

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Periodic Review

Please supply a schedule setting forth when the agency will initiate a review and re-evaluation to determine if the regulation should be continued, amended, or terminated. The specific and measurable regulatory goals should be outlined with this schedule. The review shall take place no later than three years after the proposed regulation is expected to be effective.

The Department will initiate a review and re-evaluation of the regulation to determine if it should be continued, amended, or terminated within three years after its effective date.

The specific and measurable goals the proposed regulation amendments are intended to achieve are as follows:

1. To protect public health and welfare with the least possible cost and intrusiveness to the citizens and businesses of the Commonwealth.

2. To ensure that owners comply with air pollution emission limits and control technology requirements in order to control levels of nitrogen oxides being emitted into the ambient air.
3. To prohibit emissions which would contribute to nonattainment of the national air quality standards or interfere with maintenance of the standard.

Family Impact Statement

Please provide an analysis of the proposed regulatory action that assesses the potential impact on the institution of the family and family stability including the extent to which the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; and 4) increase or decrease disposable family income.

It is not anticipated that these regulation amendments will have a direct impact on families. However, there will be positive indirect impacts in that the regulation amendments will ensure that the Commonwealth's air pollution control regulations will function as effectively as possible, thus contributing to reductions in related health and welfare problems.

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